

Kindly replace Table I beginning on Page 30, line 12 with the following:

$\alpha$ 10pfor (SEQ ID No.: 18)	5'G TTCAGAACCTGGGTTGCTACGTTGTTTCCGGTCTGATC ATCTCCGCTCTGCTGCCGGCTGT-3'
$\alpha$ 10pfor2 (SEQ ID No.: 19)	5'GGGGCATATGGTTCAGAACCTGGGTTGCTACGTTG-3'
$\alpha$ 10prev (SEQ ID No.: 20)	5'GATAACCTGGGACAAGCTTAGGAAGTAGTTACCACCGT GAGCAACAG CCGGCAGCAGAGCGGA-3'
$\alpha$ 10prev2 (SEQ ID No.: 21)	5'GGGGGGATCCGCGCGGCACCAGGCCGCTGATAACCTGG GACAAGCTTAGGAAGT-3'

IN THE CLAIMS:

Kindly replace claims 1, 2, 4, 6, 9, 10, 13, 15, 17, 23, 24, 25, 31, 33, 34, 35, 46, 48, 49, 50, 52, 54, 57, 58, 59, 64, 66, 67, 68, 78, 86, 88, 89, 90, 99, 101, 102, 103, 105, 107, 110, 111, 112, 117, 119, 120, 121, 122 and 127 with the following:

1. (Amended) A recombinant or isolated collagen binding integrin subunit  $\alpha$ 10 comprising essentially the amino acid sequence shown in SEQ ID No. 2 or SEQ ID No. 4, or homologues or fragments thereof having essentially the same biological activity.

2. (Amended) A process of producing a recombinant integrin subunit  $\alpha$ 10 comprising essentially the amino acid sequence shown in SEQ ID No. 2 or SEQ ID No. 4 or homologues or fragments thereof having essentially the same biological activity, which process comprises the steps of

a) isolating a polynucleotide comprising a nucleotide sequence coding for an integrin subunit  $\alpha$ 10, or homologues or fragments thereof having essentially the same biological activity,

b) constructing an expression vector comprising the isolated polynucleotide,

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- 1
- c) transforming a host cell with said expression vector,
- d) culturing said transformed host cell in a culture medium under conditions suitable for expression of integrin subunit  $\alpha 10$ , or homologues or fragments thereof having essentially the same biological activity, in said transformed host cell, and, optionally,
- e) isolating the integrin subunit  $\alpha 10$ , or homologues or fragments thereof having essentially the same biological activity, from said transformed host cell or said culture medium.

B3/B9

4. (Amended) An isolated polynucleotide comprising a nucleotide coding for an integrin subunit  $\alpha 10$ , or for homologues or fragments thereof having essentially the same biological activity, which polynucleotide comprises essentially the nucleotide sequence shown in SEQ ID No. 2 or SEQ ID No. 4 or suitable parts thereof.

B3/B10

6. (Amended) A vector comprising a polynucleotide or oligonucleotide coding for an integrin subunit  $\alpha 10$ , or for homologues or fragments thereof having essentially the same biological activity, which polynucleotide or oligonucleotide comprises essentially the nucleotide sequence shown in SEQ ID No. 2 or SEQ ID No. 4 parts thereof.

9. (Amended) A cell generated by steps a) to d) of the process as defined in claim 2, in which a polynucleotide or oligonucleotide coding for an integrin subunit  $\alpha 10$ , or for homologues or fragments thereof having essentially the same biological activity, which polynucleotide or oligonucleotide comprises the nucleotide sequence shown in SEQ ID No. 2 or SEQ ID No. 4 or parts thereof, has been stably integrated in the cell genome.

10. (Amended) Binding entities having the capability of binding specifically to an integrin subunit  $\alpha 10$  comprising the amino acid sequence of SEQ ID No. 2 or SEQ ID No. 4, or to homologues or fragments thereof.

*Amended*  
*13* *B12*

13. (Amended) A recombinant or isolated integrin heterodimer comprising a subunit  $\alpha 10$  and a subunit  $\beta$ , in which the subunit  $\alpha 10$  comprises essentially the amino acid sequence shown in SEQ ID No. 2 or SEQ ID No. 4, and homologues and fragments thereof having essentially the same biological activity.

*Amended*  
*13* *B13*

13. (Amended) A process of producing a recombinant integrin heterodimer comprising a subunit  $\alpha 10$  and a subunit  $\beta$ , in which the subunit  $\alpha 10$  comprises essentially the amino acid sequence shown in SEQ ID No. 2 and SEQ ID No. 4, homologues and fragments thereof having essentially the same biological activity, which process comprises the steps of

a) isolating one polynucleotide comprising a nucleotide sequence coding for a subunit  $\alpha 10$  of an integrin heterodimer and, optionally, another polynucleotide comprising a nucleotide sequence coding for a subunit  $\beta$  of an integrin heterodimer, or polynucleotides or oligonucleotides coding for homologues or fragments thereof having essentially the same biological activity,

b) constructing an expression vector comprising said isolated polynucleotide coding for said subunit  $\alpha 10$  optionally in combination with an expression vector comprising said isolated nucleotide coding for said subunit  $\beta$ ,

c) transforming a host cell with said expression vector or vectors,

d) culturing said transformed host cell in a culture medium under conditions suitable for expression of an integrin heterodimer comprising a subunit  $\alpha 10$  and a subunit  $\beta$ , or homologues or fragments thereof having essentially the same biological activity, in said transformed host cell, and, optionally,

e) isolating the integrin heterodimer comprising a subunit  $\alpha 10$  and a subunit  $\beta$ , or homologues or fragments thereof having essentially the same biological activity, or the  $\alpha 10$  subunit thereof from said transformed host cell or said culture medium.

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17. (Amended) A cell containing a first vector, said first vector comprising a polynucleotide or oligonucleotide coding for a subunit  $\alpha 10$  of an integrin heterodimer, or

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for homologues or parts thereof having essentially the same biological activity, which polynucleotide or oligonucleotide comprises essentially the nucleotide sequence shown in SEQ ID No. 2 or SEQ ID No. 4 or parts thereof, and a second vector, said second vector comprising a polynucleotide or oligonucleotide coding for a subunit  $\beta$  of an integrin heterodimer, or for homologues or fragments thereof having essentially the same biological activity.

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D15 B15  
23. (Amended) A fragment according to claim 22, which is a peptide comprising the amino acid sequence SEQ ID No. 7.

24. (Amended) A fragment according to claim 22, which comprises the amino acid sequence from about amino acid No. 952 to about amino acid no. 986 of SEQ ID No. 2.

25. (Amended) A fragment according to claim 22, which is a peptide comprising the amino acid sequence from about amino acid No. 140 to about amino acid no. 337 of SEQ ID No. 2.

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C1  
31. (Amended) An *in vitro* process of using an integrin subunit  $\alpha 10$  rising the amino acid sequence shown in SEQ ID No. 2 SEQ ID No. 4, or an integrin heterodimer comprising said subunit  $\alpha 10$  and a subunit  $\beta$ , or a homologue or fragment of said integrin or subunit having essentially the same biologically activity, as a marker or target molecule of cells or tissues expressing said integrin subunit  $\alpha 10$ , which cells or tissues are of animal including human origin.

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C3  
33. (Amended) An *in vitro* process according to claim 31, whereby said fragment is a peptide comprising the amino acid sequence SEQ ID No.: 7.

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34. (Amended) An *in vitro* process according to claim 31, whereby said fragment comprises the amino acid sequence from about amino acid no. 952 to about amino acid no. 986 of No. of SEQ ID no. 2.

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cont

35. (Amended) An *in vitro* process according to claim 31, whereby said fragment comprises the amino acid sequence from about amino acid no. 140 to about amino acid no. 337 of SEQ ID No. 1.

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C5

46. (Amended) An *in vitro* process of using binding entities having the capability of binding specifically to an integrin subunit  $\alpha 10$  comprising the amino acid sequence shown in SEQ ID No. 2 or SEQ ID No. 4, or an integrin heterodimer comprising said subunit  $\alpha 10$  and a subunit or to homologues or fragments thereof having essentially the same biological activity, as markers or target molecules of cells or tissues expressing said integrin subunit  $\alpha 10$ , which cells or tissues are of animal including human origin.

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48. (Amended) An *in vitro* process according to claim 46, whereby said fragment is a peptide comprising the amino acid sequence SEQ ID No.: 7.

49. (Amended) An *in vitro* process according to claim 46, where said fragment comprises the amino acid sequence from about amino acid no. 952 to about amino acid no. 986 of SEQ ID no. 2.

50. (Amended) An *in vitro* process according to claim 46, whereby said fragment comprises the amino acid sequence from about amino acid no. 140 to about amino acid No. 337 of SEQ ID No. 2.

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52. (Twice Amended) An *in vitro* process according to any one of claims 46-51, which is a process for detecting the presence of an integrin subunit  $\alpha 10$  comprising the amino acid sequence shown in SEQ ID No. 2 or SEQ ID No. 4 or of an integrin

B20 heterodimer comprising said subunit  $\alpha 10$  and a subunit  $\beta$ , or of homologues or fragments thereof having essentially the same biological activity.

B21 Sub C11 54. (Amended) An *in vitro* process for detecting the presence of a integrin subunit  $\alpha 10$ , or of a homologue or fragment of said integrin subunit having essentially the same biological activity, on cells, whereby a polynucleotide or oligonucleotide chosen from the group comprising a polynucleotide or oligonucleotide shown in SEQ ID No. 2 is used as a marker under hybridisation conditions wherein said polynucleotide or oligonucleotide fails to hybridise to a DNA or RNA encoding an integrin subunit  $\alpha 1$ .

B22 Sub C13 57. (Amended) An *in vitro* process according to claim 54, whereby said fragment peptide comprising the amino acid sequence SEQ ID No. 7.

58. (Amended) An *in vitro* process according to claim 54, whereby said fragment comprises the amino acid sequence from about amino acid No. 952 to about amino acid no. 986 of SEQ. ID, No. 2.

B23 Sub C15 64. (Amended) An *in vitro* process for determining the differentiation-state of cells during development, in pathological conditions, in tissue regeneration and in therapeutic and physiological repair of cartilage, whereby a polynucleotide or oligonucleotide chosen from the nucleotide sequence shown in SEQ ID No. 2 is used as a marker under hybridisation conditions wherein said polynucleotide or oligonucleotide fails to hybridise to a DNA or RNA encoding an integrin subunit  $\alpha 10$ .

B24 Sub C17 66. (Amended) An *in vitro* process according to claim 65, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide comprising the amino acid sequence SEQ ID No. 7.

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67. (Amended) An *in vitro* process according to claim 65, whereby said peptide comprises the amino acid sequence from about amino acid no. 952 to about amino acid no. 986 of SDQ ID No. 2.

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cont

68. (Amended) An *in vitro* process according to claim 65, whereby said peptide comprises the amino acid sequence from about amino acid no. 140 to about amino acid no. 337 of SEQ ID No. 2.

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78. (Amended) An *in vitro* method of using binding entities having the capability of binding specifically to an integrin subunit  $\alpha 10$  comprising the amino acid sequence shown in SEQ ID No. 2 or SEQ ID No. 4, or an integrin heterodimer comprising said subunit  $\alpha 10$  and a subunit  $\beta$  or to homologues or fragments thereof having essentially the same biological activity, for promoting adhesion of chondrocytes and/or osteoblasts to surfaces of implants to stimulate osseointegration.

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C22

86. (Amended) A process of using a collagen binding integrin subunit  $\alpha 10$  comprising the amino acid sequence shown in SEQ ID No. 2 or SEQ ID No. 4, or an integrin heterodimer comprising said subunit  $\alpha 10$  and a subunit  $\beta$ , or a homologue or fragment of said integrin or subunit having essentially the same biological activity, as a marker or target molecule of cells or tissues expressing said integrin subunit  $\alpha 10$ , which cells or tissues are of animal including human origin.

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C24

88. (Amended) A process according to claim 86, whereby said fragment is a peptide comprising the amino acid sequence SEQ ID No.: 7.

89. (Amended) A process according to claim 86, whereby said fragment comprises the amino acid sequence from about amino acid no. 952 to about amino acid no. 986 of SEQ ID No. 2.

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Sub C24  
Amended

90. (Amended) A process according to claim 86, whereby said fragment comprises the amino acid sequence from about amino acid no. 140 to about amino acid no. 337 of SEQ ID No. 2.

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B28 Sub C26

99. (Amended) A process of using binding entities having the capability of binding specifically to an integrin subunit  $\alpha 10$  comprising the amino acid sequence shown in SEQ ID No. 2 or SEQ ID No. 4, or an integrin heterodimer comprising said subunit  $\alpha 10$  and a subunit  $\beta$ , or to homologues or fragments thereof having essentially the same activity, as markers or target molecules of cells or tissues expressing said integrin subunit  $\alpha 10$ , which cells or tissues are of animal including human origin.

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B29 Sub C28

101. (Amended) A process according to claim 99, whereby said fragment is a peptide comprising the amino acid sequence SEQ ID No. 7.

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102. (Amended) A process according to claim 99, whereby said fragment comprises the amino acid sequence from about amino acid no. 952 to about amino acid no. 986 of SEQ ID No. 2.

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103. (Amended) A process according to claim 99, whereby said fragment comprises the amino acid sequence from about amino acid no. 140 to about amino acid No. 337 of SEQ ID No. 2.

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B30 Sub C30

105. (Twice Amended) A process according to any one of claims 99-104 which is a process for detecting the presence of an integrin subunit  $\alpha 10$  comprising the amino acid sequence shown in SEQ ID No. 2 or SEQ ID No. 4, or of an integrin heterodimer comprising said subunit  $\alpha 10$  and a subunit  $\beta$ , or of homologues or fragments thereof having essentially the same biologically activity.

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B31 Jul 32

107. (Amended) A process for detecting the presence of an integrin subunit  $\alpha 10$ , or of a homologue or fragment of said integrin subunit having essentially the same activity, on cells, whereby a polynucleotide or oligonucleotide chosen from the group comprising a polynucleotide or oligonucleotide shown in SEQ ID No. 2 is used as a marker under hybridisation conditions wherein said polynucleotide or oligonucleotide fails to hybridise to a DNA or RNA encoding an integrin subunit  $\alpha 1$ .

B32 Jul 34

110. (Amended) A process according to claim 107, whereby said fragment is a peptide comprising the amino acid sequence SEQ ID No. 7.

111. (Amended) A process according to claim 107, whereby said fragment comprises the amino acid sequence from about amino acid No. 952 to about amino acid no. 986 of SEQ ID No. 2.

112. (Amended) A process according to claim 107, whereby said fragment comprises the amino acid sequence from about amino acid No. 140 to about amino acid No. 337 of SEQ ID No. 2.

B33 Jul 36

117. (Amended) A process for determining the differentiation-state of cells during development, in pathological conditions, in tissue regeneration and in therapeutic and physiological reparation of cartilage, whereby a polynucleotide or oligonucleotide chosen from the nucleotide sequence shown in SEQ ID No. 2 used as a marker under hybridisation conditions wherein said polynucleotide or oligonucleotide fails to hybridise to a DNA or RNA encoding an integrin subunit  $\alpha 10$ .

B34 Jul 38

119. (Amended) A process according to claim 117, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide comprising the amino acid-sequence SEQ ID No. 7.

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120. (Amended) A process according to claim 117, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide comprising the amino acid sequence from about amino acid no. 952 to about amino. 986 of SEQ ID No. 2.

121. (Amended) A process according to claim 117, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide comprising the amino acid sequence from about amino acid no. 140 to about amino acid no. 337 of DEQ ID No. 2.

B35-Sub 40

127. (Amended) A method of using binding entities having the capability of binding specifically to an integrin subunit  $\alpha 10$  comprising the amino acid sequence shown in SEQ ID No. 2 or SEQ ID No. 4, or an integrin heterodimer comprising said subunit  $\alpha 10$  and a subunit  $\beta$ , or to homologues or fragments thereof having essentially the same biological activity, for promoting adhesion of chondrocytes and/or osteoblasts to surfaces of implants to stimulate osseointegration.